

New synonyms in the Australian micro-caddisfly fauna (Trichoptera: Hydroptilidae)

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Discovery of new Trichoptera species in collections from mainland Australia is not unusual, and, currently a number of undescribed species are known in existing collections. However, few new species are likely to be found in Tasmania, the caddisfly fauna of which was collected intensively and formed the basis of a PhD study by Neboiss (1977). Subsequent to Neboiss' work, several new species of Hydroptilidae — micro-caddisflies — were described from Tasmania by Wells (1999), and others recorded from the island (Neboiss 1981; Wells 1979a,b,c, 1980, 1981, 1985, 1997). Later, Neboiss (2003) revised the fauna, describing 17 new species collected over the years since his thesis work, none of them hydroptilids. More recently, Oláh and Johanson (2010) described two new micro-caddisfly species based on holotypes from Tasmania, for one of which a paratype is listed from SE Queensland; they also described three other new species from Queensland. Unfortunately, in preparing their paper, it seems that these authors failed to seek access to the extensive hydroptilid material in the collection of Museum Victoria, or the smaller collection in the Australian National Insect Collection, or to types of any closely similar Australian species. Nor, it appears, did they look closely at their specimens since at least four of these new names are found, on examination of the holotypes on which they are based, to be junior synonyms of established species. This short note presents the bases for decisions to suppress in synonymy the following four names of Olah and Johanson (2010): *Helleythira hiana*, *Oxyethira elora*, *Orthotrichia lapka*, and *O. capa*.

Helleythira simplex (Mosely)

Xuthotrichia simplex Mosely, 1934: 145

Helleythira valleculea Neboiss, 1977: 42, figs 182–187

Helleythira simplex (Mosely, 1934); Wells 1979b: 315

Helleythira hiana Olah & Johanson, 2010, syn. nov.

Helleythira hiana Olah and Johanson, 2010, is based on a single specimen from the Brisbane area, in south-eastern Queensland. On close examination of the holotype, it is evident that it is referable to *Helleythira simplex* (Mosely, 1934). Possibly the authors of the new name were misled by the various illustrations of this species (Mosely 1934; Neboiss 1977; Wells 1979b) all of which show some variation, due mainly to the degree of retraction of abdominal segment IX within VIII, as well as to interpretation by the authors of the complicated male genitalic structures. *Helleythira simplex* is a widespread species, occurring throughout Tasmania and from the Mt Lofty Ranges of South Australia through the wetter southeastern and eastern parts of mainland Australia almost to as far north as Townsville in east-central Queensland. It is often abundant, especially in slower, more eutrophic streams and in ponds and lakes, the larvae feeding on filamentous green algae. The illustrations of Mosely (1934) resemble most closely those of Olah and Johanson (2010), being more diagrammatic than those of the other authors. In diagnosing *H. hiana*, Olah and Johanson compare their singleton male with the male of *Helleythira sheldoni* Wells, 2005. However, although the two show similarities in general arrangement of their genitalia, *H. sheldoni* lacks the broad ridge-like structure on the dorsal side of each inferior appendage that is so characteristic of *H. simplex*, and is seen in *H. hiana*.

***Oxyethira (Trichoglene) columba* (Neboiss)**

Trichoglene columba Neboiss, 1977: 43

Oxyethira columba (Neboiss, 1977); Wells 1981: 106

Oxyethira (Trichoglene) columba (Neboiss, 1977); Kelley 1984: 436

Oxyethira elora Olah & Johanson, 2010: 33; syn. nov.

The holotype of *Oxyethira elora* Olah & Johanson, 2010, is from Tasmania, as are a number of specimens Olah and Johanson designated as paratypes; another paratype is from Carnarvon Gorge in central Queensland. Upon examination of the holotype, it was found to be indistinguishable from that of *Oxyethira columba* (Neboiss) with which it is here synonymised. *Oxyethira columba* is widespread and often abundant in Tasmania and on mainland Australia, where it occurs from Fleurieu Peninsula and Kangaroo Island in South Australia through the Grampians of Victoria to the east and northeast in streams on both sides of the Dividing Range to just north of Townsville in northern Queensland.

Males of *Oxyethira columba* show some variability in proportions of genitalic structures. However, in a morphometric study on various genitalic structures of *O. columba* undertaken some years ago, Wells (unpublished data) was unable to demonstrate any significant difference in their proportions, or, using multivariate analysis, between populations, thus postulating that they all represent a discrete species. Much of the apparent variability appears to be attributable to the degree to which the genitalia are cleared and relaxed, and the magnification and angle at which the specimens are viewed. The major differences between *Oxyethira columba* and *Oxyethira elora* as illustrated and described by Olah and Johanson (2010) are the shapes of segment IX, the spine on the aedeagus and the dorso-apical processes (but the first is close to that illustrated by Wells (1981), and the perception of the latter two depends upon the angle at which the structures are viewed). However, examination of the holotype of *Oxyethira elora* itself shows that it conforms to *Oxyethira columba* in all respects.

***Orthotrichia zonata* Neboiss**

Orthotrichia zonata Neboiss, 1977: 41; Wells 1979c: 591

Orthotrichia capa Olah & Johanson, 2010: 42, syn. nov.

The failure to identify as *Orthotrichia zonata* the specimen newly described as *Orthotrichia capa* is difficult to comprehend, even without the authors having examined the type of *Orthotrichia zonata*. The combination of illustrations of *O. zonata* male genitalia by Neboiss (1977) and Wells (1979c) show clearly all the features seen in Neboiss' species, all of which are readily recognisable in the holotype of *O. capa*. Comparison of *O. capa* with *O. atrasetta* Wells, 1979c, in the diagnosis of Olah and Johanson (2010), rather than with *O. zonata*, seems inexplicable.

***Orthotrichia flabella* Wells**

Orthotrichia flabella Wells, 1983: 637

Orthotrichia lapka Olah & Johanson, 2010: 47, syn. nov.

Orthotrichia flabella is a species of the highly distinctive *Orthotrichia aberrans*-group, a group of species with very characteristic male genitalia and a parasitoid late larval stage (Wells 1992, 2005). Two Australian species have a broad ventral lobe on abdominal segment VIII and, while *O. pectinella* Wells, 1983, has few stout black setae apically on this structure, *O. flabella* Wells, 1983, has a dense, very closely appressed brush of stout black setae. Oláh and Johanson described *O. lapka* as having, on sternum VIII "... a stout apico-mesal lobe with black flattened apex." However, observed closely, the 'black flattened apex' can be resolved into a brush of stout black setae, tightly pressed to one another, exactly as in *O. flabella*. The other apparent differences cited by Oláh and Johanson also are probably a consequence of poor resolution of structures.

In conclusion, close examination of the holotypes of four of five species described recently from Australia reveals that they are conspecific with earlier described Australian species. The bases for the following new synonyms are given: *Helleythira hiana* Olah & Johanson, 2010, junior to *Xuthotrichia simplex* Mosely, 1934 (= *Helleythira simplex* (Mosely, 1934)); *Oxyethira elora* Olah & Johanson, 2010, junior to *Trichoglene columba* Neboiss, 1977 (= *Oxyethira columba* (Neboiss, 1977)); *Orthotrichia capa* Olah & Johanson, 2010, junior to *O. zonata* Neboiss, 1977; and *O. lapka* Olah & Johanson, 2010, junior to *O. flabella* Wells, 1983.

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